

Proficient Costing Procedure of a Garment from Yarn to Consumer

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Abstract

The apparel business is extensive. The industries involvement and explanation chains are expanding worldwide. The growth of apparel manufacturing remains in the Asian country and also, the non-Asian developing countries is growing their apparel business. The garment costing is detailing the cost of every item distinguishable to the production of a particular garment. The sum of these cost plus the profit margin is the selling price. The international apparel manufacturers are manufacturing their garments by using different techniques for costing. The research outlines methods and results to establish the incredibly essential system for making the procedure of costing and final cost sheet, although lots of manufacturers use software for costing. It also establishes the total system of making final cost sheet from fabric manufacturer to wholesaler and also to consumer. The research provides the clear idea about garment costing for the young learners, for academic development, future research in clothing costing and for the apparel manufacturers. It also reflects the background of a cost sheet for garments and also production cost according to order quantity and price which enhance the impact of the global apparel business.

Keywords: Apparel; Costing; Establish; Garment; Procedure; Proficient.

1. Introduction

Currently, the apparel business plays a vital role in many least developed and developing countries though the industry faces serious challenges.

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If any country wants to maintain and improve its competitive position in global apparel markets, the challenge should serve as a enliven call for the garment industry for forming a new tactical position for any developing country. The garment costing is the most important part of the apparel business though the apparel industry has expanded globally.

A cost sheet is a complete record of each design and is used to cost garment and established the wholesale price [1]. Though the apparel business is globally we need to develop a consistent costing system to sustain in the global business. The general information, fabric information, style information and total material costing are completed in the design room. The original copy (designer worksheet) is for the manufacturer or production person, who completes the trimming cost and labor cost [1].

This research reproduced on costing techniques increasingly in apparel industry. Costing includes all the activities like purchase of yarn, knitting, dyeing, fabrication cost, all materials cost, CM cost, print, embroidery, wash, carton costing, poly consumption, test cost, inspection cost, commercial cost, profit and also shipment cost. The production cost of the garment must be determined in order to set the wholesale price, the price that retailers pay for goods; that they purchase from manufacturers. The garment costing details the cost of every item attributable to the production of a particular garment. The international apparel manufacturer making their cost details of a garment by using different techniques. Each company has its own method of preparing costing. The industry also has huge spillover impact on many other sectors such as banking, insurance, shipping, transport and ports. Any business may lose its competitive edge due to lack of skilled human resources. The industry now needs efficient human resources. The research is to establish an incredibly essential system for making final cost sheet. Although a lot of manufacturers use the costing software and also different techniques. The research indicates the costing background and produces an intact method of production cost from fabric manufacturing to wholesaler and to consumer.

2. An overview of the procedure of making garments cost sheet

There are many other industries also materialized to support the apparel industry. All essential information of garments is available in a garment costing sheet. The analysis the costing sheet of a garment it can be estimated whether the garments will be profitable what materials will be required for the production of garments [2]. Only the management and marketing department of the industry could not provide the wholesale price. It's a complex method and chancy method to provide the final price from raw materials to buyer and consumer. It's a simultaneously work of design/product development department, production and also management department. The final costing is one of the most important decisions for management department. Too much high price may avoid buyers from buying and low demand may result in the industry not to covering fix cost and therefore a loss will result. While the designer develops the design but and making a designer cost sheet where the costing the fabric and materials cost but they need to have the clear production idea of the design and all the procedure of final cost sheet which has a great effect of the particular design on the apparel or fashion market. There is no comprehensible costing procedure for a garment design to consumers. The research finds out the present condition of making garment final cost sheet and to identify the major problems about making cost sheet. The research provides the apparent procedure of making final cost sheet from fabric manufacturing to wholesaler

and established the background suggestion of the final cost sheet using in apparel business.

3. Objectives

Specially, the research was conducted,

- a) To find out how much clear procedure uses for making pre-cost sheet and final cost sheet and also the differences between those cost sheets.
- b) To establish the transparent system of making final cost sheet from fabric manufacturing to wholesaler.
- c) To provide the clear idea about garment costing and also establish the background evidence of the final cost sheet using in apparel business.
- d) To contribute technical human resources in the apparel industry.

4. Methods

The research intended to confine the current status of all using procedure for making garments cost sheet in apparel industry. The first step described the all comprehensible idea about making garments cost sheet. A literature review of the procedure for making garments cost sheet in apparel industry. The research was conducted to develop a complete transparent costing which will provide the comprehensible idea about garments costing.

Table 1: Methods of costing

The product development department	Designers	Designers estimate required fabric with trim and accessories and related all materials according to design [6].
Industrial engineer department	Work study engineer	The work study engineer combined with the information from design, and a computer program is used to calculate a suggested price for production.
Costing department	Sales representative	They can roughly estimate the wholesale cost.
Merchandising department	Sales representative	The sales representative analyses the costing sheet and presents an initial price to the buyer.
Management	Manufacturer	The manufacturer provides the final selling price.
Costing or import department	Importer	The import department estimate the exact calculation of with all commercial cost and also shipment cost
The salesperson negotiates with the buyer to finalize the final price which is acceptable for buyer and manufacturer.		

The research was designed to confine the current costing method to develop the cost sheet. The literature review component was designed to collect information about using a method of costing. The product development department estimates their costing according to design. The designers estimate required fabric per garment with trim and accessories. So, the designer has an enormous deal of control on the costing for every design by selecting raw materials.

4.1. Factors affecting garments costing

Apparel business is totally dependent on costing. The aspect which directly manipulate on garments costing are fabric consumption, size specification, order quantity, yarn price, knitting price, dyeing price, fabrication cost, sewing thread consumption, trimming and accessories costing, CM cost, print, embroidery, wash, carton consumption, poly consumption, test requirement, inspection, L/C payment, commercial cost, profit and also shipment date.

Table 2: Cost procedure [5]

Pre costing	Designer worksheet	Fabric, trim cost, labor cost and all the material cost, roughly estimate the wholesale cost.
Final costing	Cost sheet	The import department estimates the exact calculation of fabric consumption and costing, yarn, knitting, dyeing, fabrication cost, sewing thread consumption and costing, trimming and accessories costing, cm cost, print, embroidery, wash, carton costing, poly consumption, test cost, inspection cost, commercial cost, profit and also shipment cost.

4.2. Fabric consumption

Fabric consumption is the major part of garment costing. All the required fabric need to consumption and costing with minimum 5% (for woven fabric) to 10% (for knit fabric) wastages.

Table 3: Fabric consumption formula [9,12]

Fabric consumption for woven garments	$\frac{\text{Full Length of Garment} \times \frac{1}{2} \text{ Width} \times \text{Garment Parts}}{\text{Fabric Width} \times 36"} + \text{Wastage \%}$
Fabric consumption for knitwear	$\frac{\text{Full length of garment} \times \frac{1}{2} \text{ garment width} \times \text{garment parts} \times \text{GSM}}{100 \times 100 \times 1000} + \text{Wastage \%}$

4.3. Size specification & order quantity

Size specification & order quantity are also significant points for garments costing. Sometimes the price of the garment may be contradictory according to size and order quantity.

4.4. Yarn price (approximately)

Available Yarn counts in the market are 16, 8, 20, 22, 24, 26, 28, 30, 32, 34, 36, 38, 40 and maximum use count 30. The price of 30 counts Yarn is approximate \$ 5.80/kg. There is a rule of price variation of Yarn count above 30 count increase .05 cents/count measured and equal decreased below 30 each count measured.

4.5. Knitting price (approximately)

100% cotton single jersey s/j price /kg \$ 0.15, 100% cotton 1x1 rib price /kg \$ 0.20, 100% cotton pique price /kg \$ 0.20-0.23, 100% cotton interlock price /kg \$ 0.26, 100% cotton French Terri price /kg \$ 0.28, 100% cotton fleece (one sided brush) price /kg \$ 0.31, 100% cotton fleece (both sided brush price /kg \$ 0.36, if added Lycra then should have to add \$ 0.32/kg (95% cotton & 5% Lycra) which price /kg \$ 0.53.

4.6. Dyeing price (approximately)

Usually we dye four major categories of yarn as follows

Reactive dye: Used for 100% cotton price \$1.15-1.21 /kg average color, \$ 0.70-0.77 /kg white/light, \$ 1.53 /kg black color.

Disperse dye: Used for 100% polyester price \$ 1.80 /kg all color \$1.28 /kg one part dye polyester & \$ 1.15/kg for cotton, \$ 1.80 /kg both part dye polyester.

4.7. Extra fabrication cost (approximately)

Enzyme with gray fabric - \$ 0.20 /kg, heat setting (5chamber heat setting machine) 0.32/kg (heat setting is a system for fixed up the elasticity of the fabric, elasticity fixed up depends on fabric & use), brushing: 0.38 /kg for one side brush & both side 0.51/kg, peaching (glaze hand feel on fabric): \$ 0.23/kg.

4.8. Sewing thread consumption

Overall consumption for a shirt 140 meter /pieces, long pant /trouser 370 meter /pieces, shirt (basic) 175 meter/pieces shorts 300meter/pieces, jacket (basic) 350 meter/pieces (always add around minimum 25% allowance).

4.9. Trim price (approximately)

Button, interlining, lace, twill tape, velvet tape, satin tape, price tag, teeth clip etc [8].

4.11. Printing cost

Types of print are many - pigment print, reactive print, puff print, foil print, flock print, rubber print, high density print, gel print, glitter print, sugar print, discharge print, water- base print, sublimation print, photo print, radium print, crack print, heat transfer print etc[3]. Print price factors - print size, quality of print and number of a color in a print .4x4 cm 4 color qty rubber print price \$ 4.30/dozen, plastisol price \$/dozen 6.00, pigment price \$ 3.30/dozen, Flock Price \$ 8.50/Dozen, High Density Price \$ 7.50/Dozen, Puff Price \$ 5.00/Dozen, Discharge Price \$ 6.50/Dozen, Transfer print Price \$ 10.00/Dozen, Foil Price \$ 7.00/Dozen.

4.12. Embroidery

Unit price 0.30-0.40 cents / unit including thread & interlining.

Embroidery: 12000 Stitch = 1 unit

Table 4: Sewing threads consumption [10]Yarn Count

Yarn Count	Qty/Cone	Usages	Quality of Sewing Thread
60/2	5000 meter/cone	Used for Shirt	1.100% Span Polestar
40/2	4000 meter/cone	Over lock & Knit item	2.100% Polestar (Filament
30/3	2000 meter/cone	Heavy garments above 7 ounce & for top stitch	Thread)
50/2	4000 meter/cone	All knit items	3.100% Cotton
20/2	3000 meter/cone	Top stitch & bobbin	
20/9	500 meter /cone	Eyelet hole Ex: Denim button hole	

Table 5: Trim price (approximately)

Trim Items	Price Content	Price \$ /Dozen /Pieces/Role
Label (All Label)	Main label	.35/dozen
	Size label	.10/ dozen
	Care label	.08 paper .17 satin/ dozen z
	Original label	.05/ dozen
Hang Tag	Flag label	.05/ dozen
	Which include price integrated	.35/ dozen
Bar Code	hangtag	
	EAN –European Article Number – Europe	.10/ dozen
	GTIN-Global Trade Item No –USA	
Security Tag	-	.08/pieces
Tissue paper A4 Size	-	.10/ dozen
Scotch Tape	50mtr /role	.20/role
Gum Tape	48mtr/role	.45/role

4.10. Cost of making (CM)

Table 6: CM cost method

Step 1.	Per day (8 hours) machine cost = Total Direct & Indirect Cost/ Total No of Machine/ No of working day per month
Step 2.	Line cost per day = Per day (8 hours) machine cost × No of machine per line
Step 3.	Actual Output per line per day = Working Hr per day × output per Hour
Step 4.	CM per piece = Line cost per day/ Actual Output per line per day

Table 7: Embroidery consumption formula

Embroidery consumption	$= \frac{\text{No of Stitch} \times \text{No of Gmt} \times \text{Fabric Thickness (mm)}}{1000 \times 3000 (\text{meter/cone})} + \text{Wastage\%}$
	= Meter

4.13. Appliqué consumption**Table 8:** Appliqué consumption formula

Appliqué consumption for woven garments	$\frac{\text{Appliqué Length} \times \text{Appliqué Width} \times \text{Appliqué Parts}}{\text{Appliqué Fabric Width} \times 36"} + \text{Wastage \%}$
Appliqué consumption for knitwear	$\frac{\text{Appliqué length} \times \text{Appliqué width} \times \text{Appliqué parts} \times \text{GSM}}{100 \times 100 \times 1000} + \text{Wastage \%}$

4.14. Wash

Recently all garments have wash process .Need to add wash price according to buyer requirement.

4.15. Carton consumption

Total area of a carton: Formula (L+W) x (W+H) x2 /100x100 Sq.mt .While packing inside the carton, the additional paper used for garments safety which cost around \$.35--.40. Allowance around 2-3% [11].

Table 9: Washing cost (approximate)

Sl.	Types of wash	Cost of washing for an adult item
1.	Normal wash	\$1.00-1.50/dozen
2.	Pigment wash	\$1.25-2.50/dozen
3.	Silicon wash	\$1.50-2.00/dozen
4.	Enzyme wash	\$2.25-2.75/dozen
5.	Enzyme wash (denim)	\$3.50-5.00/dozen

6.	Stone Enzyme wash	\$2.50-3.00/dozen
7.	Stone Enzyme wash(denim)	\$4.00-6.00/dozen
8.	Acid wash	\$6.00-7.00/dozen

Table 10: Kinds of carton

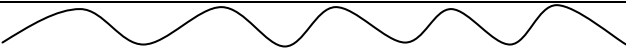


Corrugation		3 Ply Price \$.40 Sq.mt
Corrugation		5 Ply Price \$.70 Sq.mt
Corrugation		7 Ply Price \$.95 Sq.mt

Table 11: Carton packing

Example 18 Pieces /Carton, 180000 Qty Garments, 1 piece poly /Blister

- Color wise Carton Qty

White	Red	Blue	Yellow	Total
1	2	2	1	6

18/6= 3 Pieces Blister

White	Red	Blue	Yellow	Total
1x3	2x3	2x3	1x3	18
3	6	6	3	

- Required Carton =180,000 / 18= 10000pcs

4.16. Poly consumption

Formula: L x W x Thickness / 75000 Pieces /lbs

There are following two different Poly available in the market

- PP-Poly Propylene –Transparent look Price \$1.02 /lbs
- PE-Poly Ethailyne – Nontransparent look Price \$0.95/lbs

4.17. Laboratory test & category of test

- a. Physical test
- b. Chemical test

Physical test (dimensional stability /shrinkage)

- 1) Color fastness to water –CFW
- 2) Color to light –CFL
- 3) Color to rubbing –CFR
- 4) Spirality / Twisting
- 5) Bursting strength (for knit only)

Tearing strength (for woven only)

- 6) Fiber composition (100% cotton or 100% polyester)
- 7) Weight

Chemical test

- 1) AZO
- 2) Formaldehyde
- 3) Phthalates
- 4) PH

Odder quantity above 15000 pieces then cost 1.5% added on FOB, while on & average \$25/test

4.18. L/C charges

L/C received from bank after paying \$ 6.5-19.20- known as L/C handling charge , Handover the L/C to advising bank paying \$ 6.5-19.20- know as advising charge, If need any amendment charge from L/C opening bank then need to pay \$9.6 for handling & advising charge (approximately).

4.19. Sea and air freight calculation

Freight CBM calculation (cubic meter)

Container sizes: 20' , 40' & 40'H

FCL (full container load)

LCL(less container load)

GOH (gmt. on hanger)

Container sizes measured

Size 20' Container L x W x H- 228" x 84" x 94"= 29.50 CBM (actual capacity) = 28 CBM (usable)

Size 40' Container L x W x H- 474" x 84" x 94"= 61.33 CBM (actual capacity) = 56 CBM (usable)

Size 40'H Container L x W x H- 474" x 84" x 106"= 69.16 CBM (actual capacity) = 63 CBM (usable)

Air freight

- 1) According to weight
- 2) According to space /volume & according to price

$$\text{Carton Measurement / Weight} = \frac{\text{L (cm)} \times \text{W (cm)} \times \text{H (cm)}}{6000} \times \text{no. of the carton} \times \text{air freight per kg}$$

$$\text{Carton measurement / Inch} = \frac{\text{L} \times \text{W} \times \text{H}}{3} \text{ kg}$$

4.20. Commercial cost, profit and shipment date

Table 12: Commercial cost & profit

1.	Buying house has added 3% of total raw material cost
2.	Commercial cost 7.5%-15%(additional cost of total price)
3.	Profit added 20% of CM cost

5. Results

The research component was designed to collect information about detail of garment costing for apparel manufacturing, such as about cost planning, procedure of total costing from yarn to consumer .

The purpose was to determine the current state of what was available to the field and identify the problem for a transparent idea about costing.

The research was designed to collect information directly from the total manually costing and software costing. The main focus of the research was to develop the transparent costing procedure from step by step.

Table 13: PO sheet of a t- shirt [7]

Description					
Product/style name	T-shirt				
Product description	Half sleeve T-shirt				
Order quantity	Size-S	Size-M	Size-L	Size-XL	Total
	6000	9000	9000	6000	30000
Fabric details	100% Cotton Single Jersey S/J(Body Fabric)				
	95% Cotton & 5% Lycra (Neck Rib)				
Print and logo design	4x4 cm 4 Color Qty Puff				

Table 14: Size Speciation Sheet of a T- Shirt

Description	Size S	Size M	Size L	Size XL
1/2 Chest	53cm	55cm	57cm	59cm
Body length	72cm	74cm	76cm	78cm
Sleeve length	23cm	24cm	25cm	26cm
Neck length/opening	18.5cm	19.5cm	20.5cm	21.5cm
Neck/width/binding	2 Cm	2 Cm	2 Cm	2 Cm
Allowance	1 Cm	1 Cm	1 Cm	1 Cm
Hem height	2.5cm	2.5cm	2.5cm	2.5cm

5.1. The Costing procedure step by step

Table 15: Fabric consumption / pieces

A	Description	S	M	L	XL
	1/2 Chest	53+2=55	55+2=57	57+2=59	59+2=61
	Machine diameter	55/2.54=21.25,22×2.5	57/2.54=22.44,24×2.	59/2.54=23.22,24×	61/2.54=24.01,24×2.5
	consumption	4=55.88 OR 56	54=60.96OR 61	2.54=60.96OR 61	4=60.96OR 61
	Body length	72+2.5+2=76.5	74+2.50+2=76.5	76+2.5+2=80.5	78+2.5+2=82.5
	Sleeve length	23+2.5+2=27.5	24+2.5+2=28.5	25+2.5+2=29.5	26+2.5+2=30.5

		$(76.5+27.5) \times 56 \times 2 \times 18$ $0/10000000+10\%=0.2$ 3 KG/PER PCS	$(78.5+28.5) \times 61 \times 2 \times 1$ $80/10000000+10\%=0$.25 KG/PER PCS	$(80.5+29.5) \times 61 \times 2$ $\times 180/10000000+10$ $\%=0.27$ KG/PER PCS	$(82.5+30.5) \times 61 \times 2 \times 18$ $0/10000000+10\%=0.2$ 7 KG/PER PCS
B	Neck length/ opening	$(18.5 \times 2) + 2 = 39$	$(19.5 \times 2) + 2 = 41$	$(20.5 \times 2) + 2 = 43$	$(21.5 \times 2) + 2 = 45$
	Neck/width/bin ding	$(2 \times 2) + 2 = 6$	$(2 \times 2) + 2 = 6$	$(2 \times 2) + 2 = 6$	$(2 \times 2) + 2 = 6$
	Neck fabric consumption	$39 \times 6 \times 240 \times 1 / 1000000$ $0+10\%=0.0061$ KG/PER PCS	$41 \times 6 \times 240 / 1000000$ $0+10\%=0.0064$ KG/PER PCS	$43 \times 6 \times 280 \times 1 / 1000$ $0000+10\%=0.0068$ KG/PER PCS	$45 \times 6 \times 280 \times 1 / 10000000$ $+10\%=0.0071$ KG/PER PCS

Table 16: Total body and neck fabric consumption

Size	Total Qty. In Pieces	Body Fabric Required Per Pieces Kg	Total Body Fabric Required In Kg	Neck Fabric Required Per Pieces Kg	Total Neck Fabric Required In Kg
S	6000	0.23	1380	0.0061	36.6
M	9000	0.25	2250	0.0064	57.6
L	9000	0.27	2430	0.0068	61.2
XL	6000	0.27	1620	0.0071	42.6
Total	30000		7680		198

Table 17: Yarn consumption

Single jersey yarn booking
100% cotton body fabric yarn requirement= $(7680+15\%)=8832$ kg
95% cotton 5% Lycra (neck yarn requirement = $(198+15\%)=227.70=228$ kg
95% cotton = $(95/100) \times 228=216.6=217$ kg
5% Lycra = $(5/100) \times 228=11.40=12$ kg
total cotton yarn required = $(8832+217)= 9049$ kg
total Lycra yarn required =12 kg

Table 18: Costing for body fabric

Costing for body fabric
100% cotton yarn price= $(8832 \times 5.80)=\$ 51225.60$
knitting price = $(76800 \times .15)=\$ 1152.00$

dying price	$= (7680 \times 1.40) = \$ 10752.00$
finishing price	$= (7680 \times 1.40) = \$ 10752.00$

\$73,881.60

Table 19: Costing for neck rib fabric

Costing for neck rib fabric	
100% cotton yarn price	$= (2175 \times .80) = \$ 1258.60$
yarn price Lycra	$= (12 \times 20) = \$ 240.00$
knitting price	$= (198 \times 0.30) = \$ 59.40$
dying price	$= (198 \times 1.40) = \$ 277.20$
finishing price	$= (1981 \times .40) = \$ 277.20$
	\$2,112.40

Table 20: CM cost

Per month direct & indirect cost = \$ 60000.00
Total number of machine = 200
Number of working days per month= 26
Average cost per machine of per day= $60000 / (200 \times 26) = \$ 11.53$
Number of machine per line = 24
Cost per line= $(24 \times 11.53) = \$ 276.72$
Actual output per line=x
$x = (\text{working hours} \times \text{output /hourly})$
$= (81 \times 100) = 800 \text{ PCS}$
CM per piece= $(276.72 / 800) = \$ 0.34$
Total cost= $(30000 \times 0.34) = \$ 10,200$

Table 21: Testing cost & trims cost

Testing cost	
Total test cost for the order = $5 \times 30 = \$ 150.00$	
Trim cost	
1	sewing thread required= $30000 \times 150 / 4000 + 10\% = 1237.5 = (1238 \times 1.3) = \$ 1609.40$
2	woven main label $= ((30000 \times 0.20) / 12 + 10\%) = \$ 550.00$
3	woven size label $= (30000 \times 0.10) / 12 + 10\% = \$ 275.00$
4	wash label $= (30000 \times 0.08) / 12 + 10\% = \$ 220.00$

5	print price =(30000×5)/12+10% =\$ 13750.00
6	tissue paper =(30000×0.07)/12+10%=\$ 192.00
7	poly bag =(30000×0.60)/12+10% =\$ 1650.00
8	carton required (1 + w) × (w + h) ×2/10000 (60+40) × (40+40) ×2/10000 1.6 sq meter total CTN-(30000/60)= (500 pcs×1.6)= 800 sq meter CTN price =(800×0.90)=\$ 720.00
9	other packing materials =(30000×0.15)/12+10%=\$ 412.50
Total price-\$19,379.40	

Table 22: Packing list

CTN NO	NO OF CTN	COLOR	SIZE				PCS PER CTN	TT-PCS	G WT PER CTN 60×40×40/6000	TT-G WT	TT-CBM
			S	M	L	XL					
1-33	33	WHITE	60				60	1980	16	528	3.168
34-83	50	WHITE		60			60	3000	16	800	4.8
84-133	50	WHITE			60		60	3000	16	800	4.8
134-166	33	WHITE				60	60	1980	16	528	3.168
167-199	33	SKY	60				60	1980	16	528	3.168
200-149	50	SKY		60			60	3000	16	800	4.8
150-299	50	SKY			60		60	3000	16	800	4.8
300-332	33	SKY				60	60	1980	16	528	3.168
333-365	33	BLACK	60				60	1980	16	528	3.168
366-415	50	BLACK		60			60	3000	16	800	4.8
416-465	50	BLACK			60		60	3000	16	800	4.8
466-498	33	BLACK				60	60	1980	16	528	3.168
499	1	WHITE	20				60	60	16	16	0.096
		SKY	20				0	0	16	0	0
		BLACK	20				0	0	16	0	0
500	1	WHITE				20	60	60	16	16	0.096
		SKY				20					
		BLACK				20					
TT	500							30000		8000	48

Table 23: FOB price

1	Cost of body fabric	= \$ 73,881.60
2	Cost of neck rib fabric	= \$ 2112.40
3	Total cm cost	= \$ 10,380.00
4	Total testing cost	= \$ 150.00
5	Total trim cost	= \$ 19,378.90
	Total - price	= \$ 105,902.90
6	Commercial cost(3%	= \$ 3177.087
	FOB price =	= \$ 109,079.987

Table b24: Freight calculation

	Freight Calculation
1	Shipping qty- =30000 pieces
2	Total grows wt = 800 kg
3	Total CBM = 48
	FCL price /CBM=\$ 60
	Size of container
1	20' = 29.50 CBM/28 CBM (usable)
2	40' = 61.30 CBM/56 CBM (usable)
3	40'h= 69.16 CBM/63 CBM (usable)
	20'=29.5×60×2=\$3540
	40'= 61.30×60×1=\$ 3678

Table 25: CFR cost of price

	FCR cost of price
1	FOB price = \$ 109079.987
2	Freight cost = \$ 3540.00
	Total- CFR cost- \$ 112,619.987
	CFR cost per pieces = (112,619.987/300000)=\$ 3.75

5.2. The Cost Structure of a RMG Unit

Cost components- material costs 62%, value addition (print, embroidery, wash, other embellishment) 6%,non industrial cost (local selling , interest , tax, advertising or promotional cost , distribution costs others)4%, factory profit –employment cost 9%, overhead cost (fuel, electricity, office expense) 3%, profit margin 16% of total FOB price.

5.3. The Cost Structure of Apparel Supply Chain

Retail shop profit and other cost 50%, brand profit and overhead promotion 25%, material costs and factory profits 13%, transportation /taxes/import costs 11%, factory workers wages 1% of total retail price.

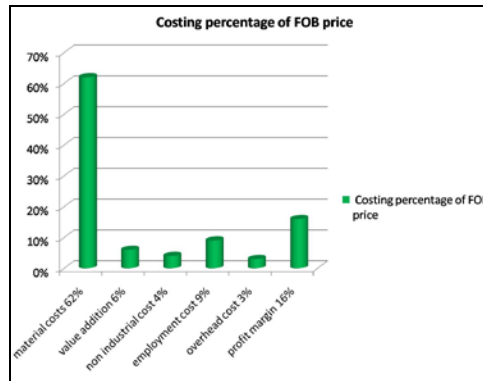


Figure 1: The cost structure of a RMG unit

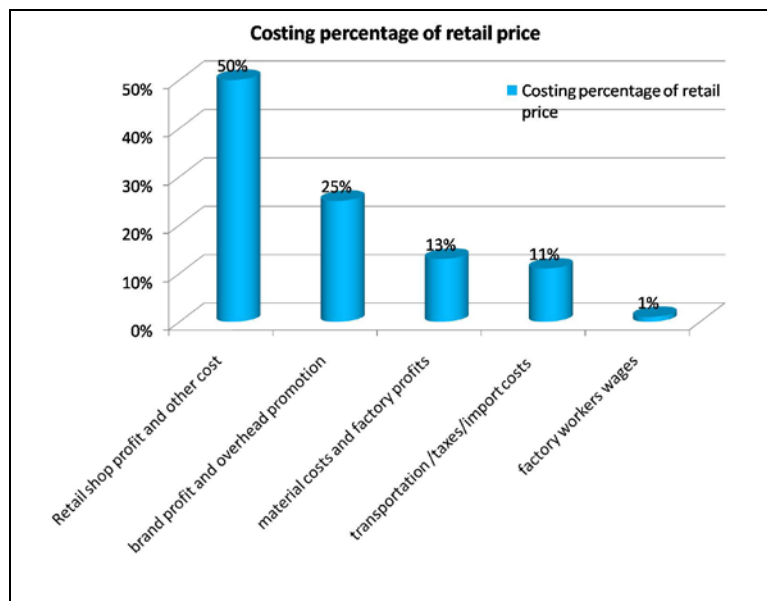


Figure 2: The cost structure of apparel supply chain

6. Conclusion

Large scheme are required for the investment in apparel manufacturing and merchandising and fashion education as apparel sector is highly fashion-oriented industry and constant market research is necessary to become successful in this global business. It will be needed talent and skill man power resource center for apparel industry. This research briefly discussed the entire costing system of a garment for forward addition and also academic and professional requirement to develop this sector and to face the next challenge with this clear procedure of costing. As a large and vital global business, it will face the challenge as a private entrepreneur, as a mid-level management member or an apparel manufacturer as well as apparel merchandiser. As a result, to

face this challenge we need to find out the present situation of academic sector and industrial management system and its outcome and also need to increase academic and professional development according to the future requirement which will make them professional human resources in the apparel sector.

Today fashion/apparel is a universal industry. We need to create a link between our apparel manufacturing, fashion and merchandising education and global contemporary fashion education by arranging all apparel manufacturing management system clear and proficient. The key will be developing of management staff for leadership and innovation in apparel sector. Transparent costing sheet by using new technology and also professional development is a great challenge for this sector. The developing countries are not manufacturing high quality of garment did not it rank as fashion/fancy garment market in the international apparel market. The developing countries market is still categorized as a source of low to medium quality garment in international market which is a great challenge to sustain in the global fashion market. To sustain in the global fashion market need to be transparent to the buyers and also consumer. This research briefly discussed the entire costing system of a garment for forward addition and also academic and professional requirement to develop this sector and to face the next challenge. To minimize cost of production and maximize sales revenues need to be apparent all calculation from manufacturer to buyer and to consumer. Though it is a challenging sector, needs proper research to develop this apparel sector. In this regard we need to ensure standard and transparency in this sector.

7. Recommendations

The apparel global market is not for high quality of garment nor it ranked as fashion / fancy apparel market in the international apparel market. This research briefly discussed the present condition of forward integration and also academic and professional requirement to develop this sector and to face the next challenge. So, to face the future challenge apparel industry need to develop academically and professionally for apparel business. The research will provide the talented resources to develop this sector. A scope of study for a clear procedure to make final costing for a garment production and promotion and detailed study of apparel costing to contribute technical human resources in the apparel industry.

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